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TO:	Margie Read, REAII Senior Environmental Scientist Irrigated Lands Regulatory Program	**FROM:**	Chris Jimmerson Environmental Scientist Irrigated Lands Regulatory Program
DATE:	29 April 2008	**SIGNATURE:**	*Original Signed By Chris Jimmerson*

2007 ANNUAL MONITORING REPORT REVIEW - SOUTH SAN JOAQUIN IRRIGATION DISTRICT

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) staff reviewed the Annual Monitoring Report (AMR) for the South San Joaquin Irrigation District (District) dated 28 February 2008. The District submitted this report to meet the conditions of the Monitoring and Reporting Program (MRP) Order No. R5-2003-0827 (Order) for Individual Discharges under Amended Resolution No. R5-2006-0054 and the associated Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated Lands (Conditional Waiver) adopted by the Regional Water Board.

In a letter dated 19 October, staff requested the District to formerly acknowledge in writing that the District will be analyzing for prodiamine by submitting an addendum to the MRP Plan and Quality Assurance Project Plan (QAPP) before the next AMR is due. On 18 March, the District provided a response to staff indicating that it has requested a QAPP from its laboratory that will include prodiamine.

Water Board staff reviewed the AMR to evaluate it for the required reporting conditions described in the Order and in the District's MRP Plan. In this memorandum, staff presents their comments and recommendations pursuant to the Order, and MRP Plan. The review is divided into two parts: (A) a discussion of administrative and compliance aspects and (B) a discussion of analytical aspects. The section titles in the two parts are the same as the titles used in the AMR.

A. ADMINISTRATIVE AND COMPLIANCE

- **Table of Contents**
  The AMR included the required major components described in the Order as presented in the Table of Contents.

- **Pesticide Use Evaluation**

This section reports the pesticides used by the District and the ones that are subject to the District's current NPDES permit. According to the PURs presented in the AMR, the District also used the following pesticides triclopyr (Garlon 3A), norfluorzon (Predict), tebuthiuron (Spike 80W), and prodiamine (Endurance), which should also be indicated in this section.

Staff prepared the table below reporting the pesticide, month of application, and the month when the sample event occurred.

		Month Applied											
Product Name	**Active Ingredient**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Endurance	Prodiamine	x	x										
Direx 4 L	Diuron	x	x	x								x	x
Garlon 3A	Triclopyr							x			x		
Krovar	Bromacil	x	x			x						x	
Round Up	Glyphosate	x	x	x	x	x	x	x	x	x	x	x	x
Predict	Norflurozon	x											
Transline	Clopyralid	x											
Spike 80W	Tebuthiruon											x	

x = Date of pesticide application

Shade=month of sample event

The District applied the chemical tebuthiuron in November, but did not conduct analysis. It is required to conduct chemical analysis for chemicals it uses. Reports indicate that this chemical was applied once during the year, and it was applied subsequent to the August and October monitoring events. Thus, sample results for this chemical would be irrelevant since the application occurred after the monitoring events.

- **Monitoring Sites**
  Page 3 provides a table reporting the sample coordinates for Drain 11 at Walsal Slough. The District collected water samples at additional locations named Drain 11 at Oleander Road and Drain 11 at Tennin Road. The table should include GPS locations for these two sample points. In an 18 March communication letter to Regional Water Board staff, the District explained that the additional upstream sample locations were used to source previous diuron detections. The AMR did not report any additional diuron detections from the additional upstream sampling event in 2007.

- **Event Scheduling**
  The District scheduled itself to collect samples four times per year: two irrigation events and two storm events. The District conducted its August and October irrigation season events, but not its two storm season events, even though sufficient rainfall occurred to trigger the monitoring event in late January. In an 18 March communication letter to staff, the District explained that a laboratory change and a training conference conflict prevented the sampling event from taking place. Should this situation again occur, the District should obtain the bottles and labels well in advance, and arrange for an alternate crew to conduct sampling.

B. ANALYTICAL

- **Management Practices; MPs Implemented by SSJID**
  The District did not observe any pesticide exceedances for the sampling events. The District reported that it followed the pesticide label instructions, obtained the required permits, and filed its annual Notice of Intent with the California Department of Fish and Game.

- **Quality Control Sample Collection**
  Laboratory QA/QC complies with the conditional waiver requirements with a sufficient number of spikes, method blanks, equipment blanks, field duplicates, laboratory control samples (LCS), surrogates, continuing calibration verification (CCV), and calculated relative percent difference (RPD). More than 95% of the QA/QC results met acceptance criteria.

- **Laboratory Analysis**
  Page six of the AMR reports that BSK Analytical Laboratories contracted with Environmental Micro Analysis, Inc. to conduct analyses for pesticides and herbicides due to the complexity of analyses. The AMR did not discuss Environmental Micro Analysis results, but did discuss results from labs BSK and APPL. The District should be cautious when using boilerplate language.

- **Monitoring Results and Discussion**
  Page 8 of the AMR reads, "…sampling locations during the **four** monitoring events..." and "…During the two irrigation season monitoring events (**July and August**)…" These statements are inconsistent with the actual number of monitoring events (2) discussed in the AMR and months in which the events were conducted (**October**). The District should be cautious when using boilerplate language.

  Page 10 reports the constituents in which the District did not observe detections. This included norflurazon and triclopyr. Staff reviewed the electronic data, and found that these two chemicals did actually have detections at drains 11 and 14, which were below trigger limits. Further, the AMR describes a detection for glyphosate at Drain 11 and 14, while Regional Water Board staff found zero detections in the actual laboratory reports.

  Staff prepared the table below reporting the result for each detected analyte, as generated from the electronic submitted monitoring data. The gray shaded fields represent chemicals the District used, which required analysis. The District did not conduct analysis for prodiamine from the 21 August event. For all other constituents/parameters in the irrigation season, the District collected and analyzed the samples at the appropriate frequency, and reported the analytical results. The District's current lab could not conduct prodiamine analysis until the October event when the lab subcontracted out the prodiamine analysis to another laboratory. The District did not report any pesticide exceedances for the monitoring period. However, the two storm season sample events were not conducted (see Section A, Event Scheduling).

SampleDate	StationCode	Bromacil	Clopyralid	D,2,4-	Deltamethrin	Dicamba	Diuron	Glyphosate	Nitrogen, Total Kjeldahl	Norflurazon	Phosphorus as P	Potassium	Prodiamine	Total Dissolved Solids	Total Organic Carbon	Triclopyr	Turbidity
21/Aug/2007	Drain 11	ND	ND	ND		ND	ND	ND	0.91	ND	0.2	2.4		220	4.2	ND	36
	Drain 11 at Oleander						ND										
	Drain 11 at Tennin Rd						ND										
	Drain 12	ND	ND	ND		ND	ND	ND	4.3	ND	1.5	7.6		140	5.4	ND	82
	Drain 14	ND	ND	ND		ND	ND	ND	0.81	ND	0.1	1.73		49	3.4	ND	6.2
19/Oct/2007	Drain 11	ND	ND		2.43		ND	ND	0.15	1.34	0.44	2.9	1.5	440	3.8	1.1	1.1
	Drain 11 at Oleander						ND										
	Drain 11 at Tennin Rd						ND										
	Drain 14	ND	0.93		70.2		ND	ND	0.38	ND	0.22	2.3	ND	56	4.2	0.18	4.8

ND=Non detect

Gray shade=required analysis

Blank field=no analysis conducted

10/19/07 Drain 12 dry. No sample.